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**Name of Organization:** City of Gibraltar

**Type of Organization:** Municipality

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**Project Title:** Gibraltar Contaminated Sediment Removal Pilot Project

**Project Category:** Contaminated Sediments

**Rank by Organization (if applicable):** 0

**Total Funding Requested (\$):** 146,000 **Project Duration:** 1 Years

**Abstract:**

The City of Gibraltar is an island community in the Detroit River long concerned with the quality of its natural waterways. A two part plan was developed as a local community initiative to deal with contaminated sediment thought to be responsible for a long standing ban on total body contact and a drastic reduction in biodiversity in the waterways.

The two part plan calls for: 1) removal of up to 20,000 cubic yards of contaminated sediment from a pilot area and 2) the design a construction of a wing dam system to permanently fix the problem of contaminated sediment accumulation.

Recently, with the assistance of the American Heritage River Navigator for the Detroit River, the City was able to request assistance from the Army Corps of Engineers (ACOE) under their Continuing Authorities program to help realize the second part of the plan.

Now, with the assistance of the GLNPO, the City can accomplish both parts of its long standing plan for management of Gibraltar's waterway/canal/bayou system.

The first part of the plan, which will require assistance from GLNPO, calls for a baseline sediment sampling survey and characterization that will focus on persistent, bioaccumulative substances in the sediment. This will be used to evaluate candidate pilot sediment removal areas and to prepare a preliminary sediment management plan. After this plan is reviewed by the public, a plan and specification for contaminated sediment removal from the first pilot area will be prepared, bid to local contractors and implemented after consultation with the ACOE.

The ACOE portion of the project is expected to begin in August, 2000 with the GLNPO supported part beginning in October, 2000. The contaminated sediment is expected to be removed from the pilot area by late July, 2001.

The City of Gibraltar is requesting \$146,000 from GLNPO. With a favorable review of our submittal, the, ACOE is expected to provide up to \$40,000 for part 2.

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**Geographic Areas Affected by the Project**

**States:**

<input type="checkbox"/> Illinois	<input type="checkbox"/> New York
<input type="checkbox"/> Indiana	<input type="checkbox"/> Pennsylvania
<input checked="" type="checkbox"/> Michigan	<input type="checkbox"/> Wisconsin
<input type="checkbox"/> Minnesota	<input type="checkbox"/> Ohio

**Lakes:**

<input type="checkbox"/> Superior	<input checked="" type="checkbox"/> Erie
<input type="checkbox"/> Huron	<input type="checkbox"/> Ontario
<input type="checkbox"/> Michigan	<input type="checkbox"/> All Lakes

**Geographic Initiatives:**

<input type="checkbox"/> Greater Chicago	<input type="checkbox"/> NE Ohio	<input type="checkbox"/> NW Indiana	<input checked="" type="checkbox"/> SE Michigan	<input type="checkbox"/> Lake St. Clair
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**Primary Affected Area of Concern:** Detroit River, MI

**Other Affected Areas of Concern:**

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***For Habitat Projects Only:***

**Primary Affected Biodiversity Investment Area:** Lake St. Clair/Detroit River

**Other Affected Biodiversity Investment Areas:**

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**Problem Statement:**

As the Detroit River moves through the islands in the City of Gibraltar, the current substantially reduces and potentially contaminated sediment is deposited at the mouth of the East and West Gibraltar Waterways, Brownstown Bay Canal and Horse Island Bayou. This has had a number of negative impacts; as an example, total body contact has been banned in the waterways for a number of years and the accumulation of sediment has drastically reduced the biodiversity once found in these canals. The City needs to survey the physical and chemical characteristics of this sediment and develop a plan and specification for a pilot project for the removal of up to 20,000 cubic yards of contaminated sediment while preserving local aquatic habitat.

A number of years ago, City leaders helped to devise a concept plan to permanently fix the problem. The concept uses a reconstructed wing dam to redirect a small, steady current through the canals and waterways to minimize the accumulation of contaminated sediment. This is expected to provide an innovative, low-maintenance, permanent solution to the problem and still protects the aquatic environment.

The concept project was submitted to the Detroit River Navigator for consideration under the American Heritage River(AHR) program. Recently, through the efforts of the AHR navigator, the City was able to request assistance from the Army Corps of Engineers (ACOE) under their Continuing Authorities program to help realize this concept.

Now, with the assistance of the GLNPO, the City can accomplish both parts of its long standing plan for management of Gibraltar's waterway/canal/bayou system.

**Proposed Work Outcome:**

The City plans to move ahead with both parts of its plan. Specifically, the City needs GLNPO's help to conduct a Baseline Sediment Characterization Survey; to develop a plan and specification for sediment removal in a pilot removal area and for contaminated sediment removal action.

The City's residents have volunteered to provide the boat and crew needed to conduct the baseline sediment sampling survey and the work will be coordinated with a baseline data collection effort needed to complete the work that is to be funded by the ACOE.

The sediment characterization program is designed to be pragmatic. The sediment samples will be tested for mercury, PCB's, lead and polynuclear aromatic hydrocarbons (particularly benzo (a) pyrene) because they are persistent, bioaccumulative substances. Selected subsamples will be tested as needed for waste disposal and a small number will be

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used in a sediment toxicity evaluation. A benthic biota study is also planned to develop a baseline characterization in selected habitat areas.

After the data are collected and reduced, sediment volume estimates will be developed and chemical distribution maps (e.g. an isochlor map) will be prepared. These data will provide the basis for evaluating candidate pilot sediment removal areas and preparing a preliminary sediment management plan. Aquatic habitat stabilization will also be evaluated and included in the plan

This plan will then be taken to a public forum for review and comment. We expect to use this vehicle to educate the community on the program and their participation in it.

The plan will be modified to reflect public input and used as the basis for developing a plan and specification for contaminated sediment removal from the first pilot area. This plan will be submitted to local contractors; bids will be evaluated and a contractor will be selected. After consultation and coordination with the ACOE staff, a disposal site will be selected and the sediment removal operation will begin. The removal work will be monitored in the field by both consultants and the City's engineering staff.

A summary report on the operation will be prepared.

**Project Milestones:**

**Dates:**

Needs Assessment (ACOE)	08/2000
Field Samp./Biota/Toxicity Analysis(EPA)	10/2000
Hydraulics Analysis/ (ACOE)	11/2000
Public Comment/ Input	12/2000
Sediment Remediation Area Plan(EPA)	02/2001
Wing Dam Feasibility Study done(ACOE)	02/2001
Sediment Remed. Plan and Spec (EPA)	04/2001
Sediment Remediation Completed	07/2001

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☐ Project Addresses Environmental Justice

**If So, Description of How:**

☒ Project Addresses Education/Outreach

**If So, Description of How:**

The public forums will provide a means to both listen and teach. Members of the community have a long standing interest in the management of the City's waterway system and will have valuable input. Consultants to the City of Gibraltar and experts from the ACOE will have an opportunity to educate the public on sediment transport, contaminant exposure pathways and the relationship between contaminated sediment removal and a healthy aquatic ecosystem.

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**Project Budget:**

	<b>Federal Share Requested (\$)</b>	<b>Applicant's Share (\$)</b>
<b>Personnel:</b>	0	3,000
<b>Fringe:</b>	0	0
<b>Travel:</b>	0	0
<b>Equipment:</b>	0	2,000
<b>Supplies:</b>	0	500
<b>Contracts:</b>	46,000	1,900
<b>Construction:</b>	100,000	0
<b>Other:</b>	0	40,000
<b>Total Direct Costs:</b>	146,000	47,400
<b>Indirect Costs:</b>	0	0
<b>Total:</b>	146,000	47,400
<b>Projected Income:</b>	0	0

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**Funding by Other Organizations (Names, Amounts, Description of Commitments):**

Army Corps of Engineers (approx. \$40,000)

- Coordinated Baseline Data Collection Study for Wing Dam Feasibility Analysis
- Feasibility Study of Wing Dam Concept
- Wing Dam Design/ Data Collection/ Investigation
- Preliminary Hydraulics Analysis
- Sediment Disposal Site Selection Consultation

City of Gibraltar (in kind contribution) (approximately \$5,500)

- Boat(s) and crew during sampling surveys (by volunteer citizens)
- coordination and hosting of public forums (City staff)
- review of engineering analysis, feasibility studies and plans and specifications (by City engineering staff)
- monitoring during sediment removal action (by City engineering staff)
- Consultant fees (approx. \$1,900)

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**Description of Collaboration/Community Based Support:**

This is a local initiative based on long standing local interest and as such it has strong local support. The Gibraltar City Council has approved the submission of this preproposal.

The American Heritage River Navigator for the Detroit River, Mr. John Hartig, supports the project.

Preliminary assessment by the staff at the ACOE suggests that the project is eligible for consideration under Section 206 of the ACOE's Continuing Authorities program.

The project is supported by the Detroit River Coastal Community Consortium (DRC3)

The project is supported by Wayne County